



# Bridges in Germany

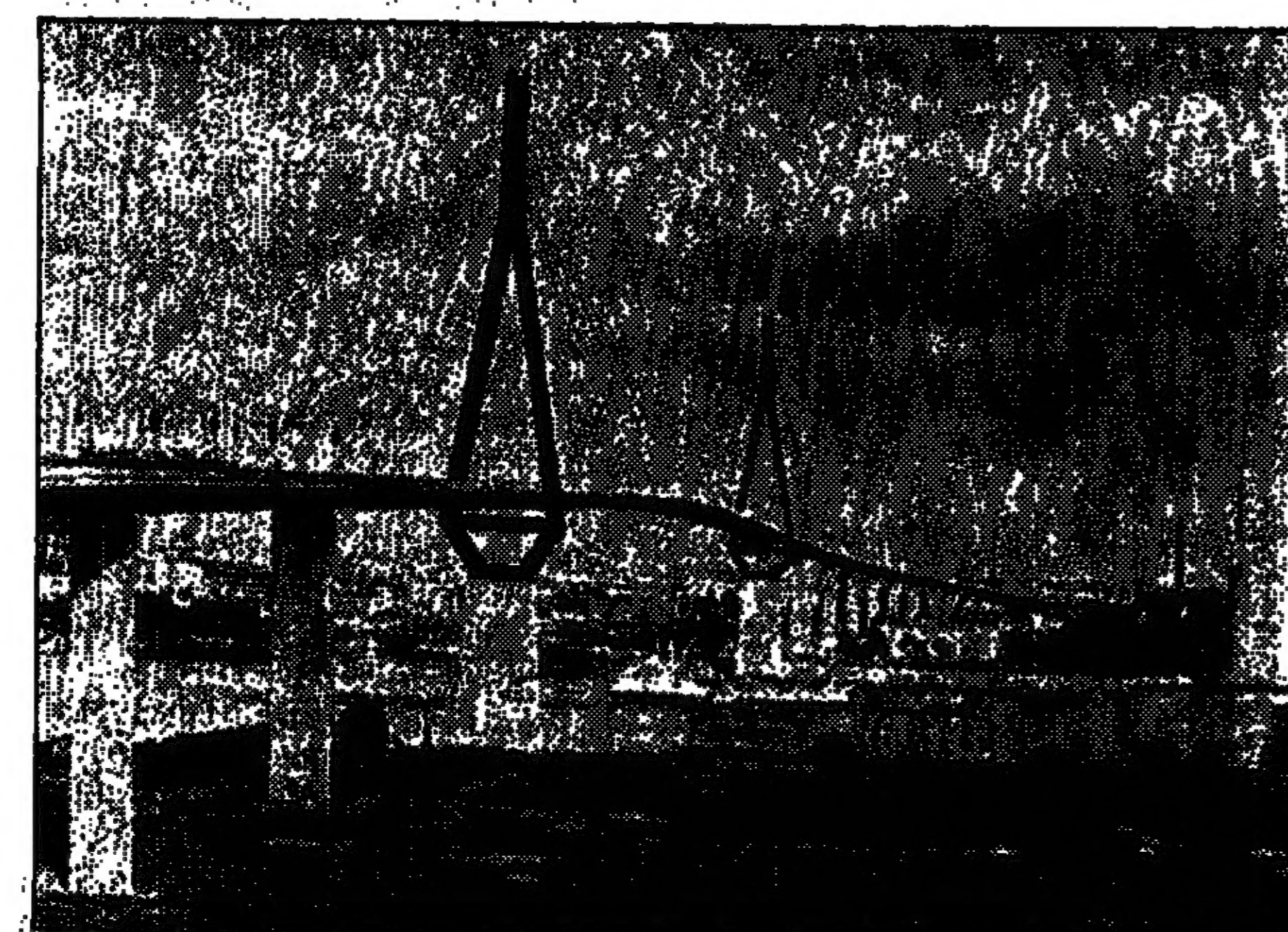
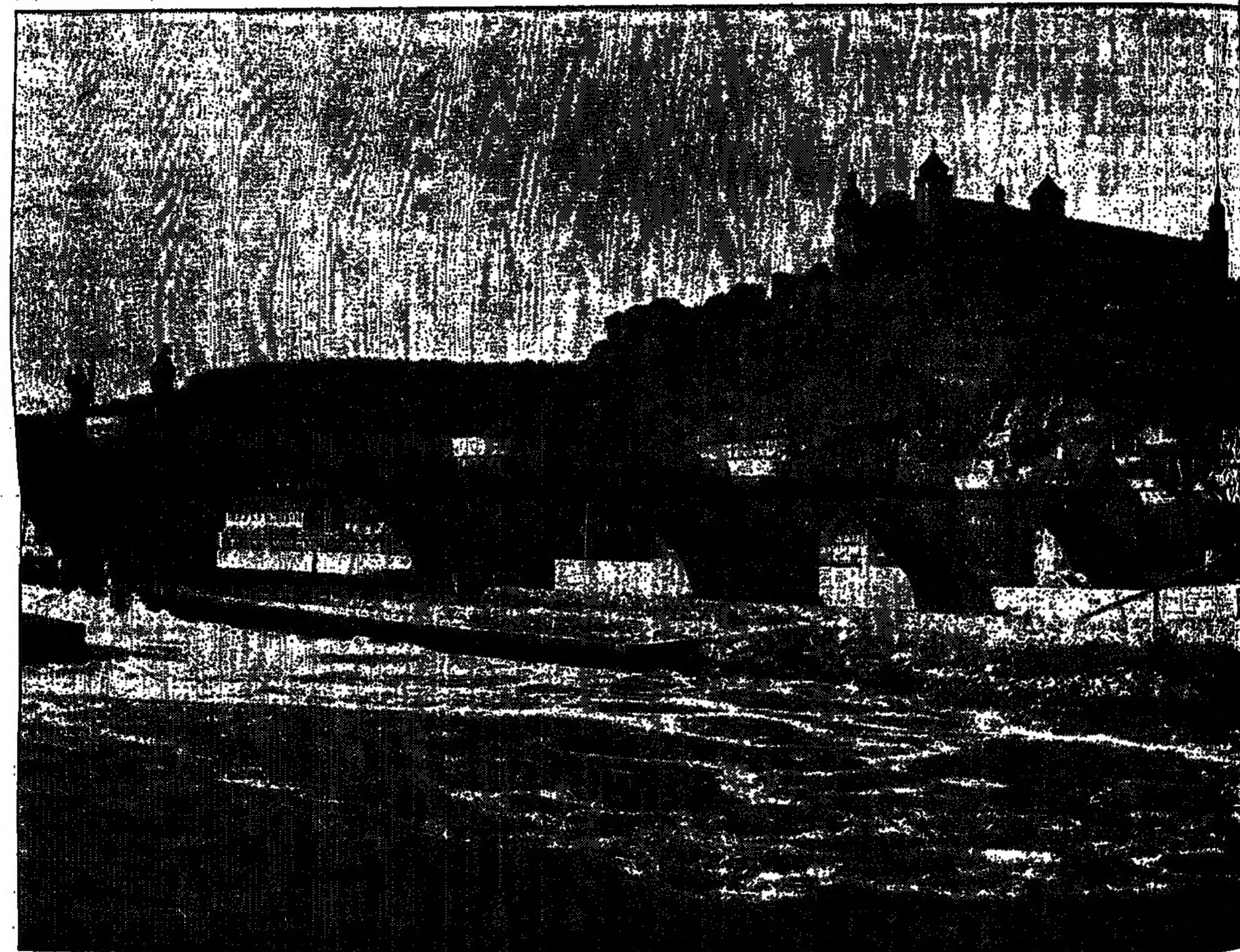
# The German Tribune

A WEEKLY REVIEW OF THE GERMAN PRESS  
C 20725 C  
ISSN 0016-8858

Columbus hadn't been born yet, in Rome the Pope was Honorius II and the Emperor Barbarossa was still a young man - but there was already the "Stone Bridge" over the Danube at Regensburg. It was built in the first half of the 11th century and was regarded at that time as a "technical marvel", 310 metres in length with 16 stone arches. Today it is the oldest stone bridge still in use.

The bridges in Old Germany do not merely cross rivers and streams; they also span centuries and epochs. The ancient bridge across the Main in Würzburg is over 500 years old, with its stone figures of the Twelve Apostles, Mary and Joseph. The timber bridge across the Rhine in the romantic township of Säckingen was built 400 years ago. It is a gem - the oldest extant timber bridge in Europe. The stone bridge

in the Renaissance town of Pforzheim on the North Sea coast was erected shortly after 1600. The modern Köhlbrand Bridge in Hamburg is of almost gigantic proportions. Suspended on cables it is four kilometres long and 80 metres high. Germany is truly a land of bridges.



Bridge in Würzburg  
Köhlbrand Bridge in Hamburg

27 September 1981  
Year - No. 1006 - By air

## US assured over public opinions, Berlin

The Federal Republic of Germany is not anti-American, says the Government. Mayor of West Berlin, Richard von Weizsäcker, during a visit to Washington he said it was possible some people worried that America might regard its role as merely that of maintaining a military balance. Herr von Weizsäcker spent four days in intensive talks with the US administration, leading Congressmen and the President. He continually emphasised that Berlin would play a crucial role in world affairs. He would hear nothing of a political isolationism of which Berlin might have fallen foul after the Four Big Agreement came into force. Berlin, he said, was of interest not only as a city, just as it itself had its own urban interests, and this role had been underlined by Secretary of State Haig's visit to the city. Berlin remained a symbol of German-American friendship. One of the questions he was asked was about the future of the city, prompted in part by the visit that highlighted Mr Haig's visit to the city. He and large Herr von Weizsäcker and people he conferred with in America.

itself but the basis of an active Nato Ostpolitik. American listeners reacted with surprise but interest to hearing views voiced by a Christian Democrat that called to mind a number of traditional premises of détente policy. The Reagan administration does not have a very high opinion of détente at present. It does not expect the Soviet Union to abide by the rules of détente as long as no agreement has been reached with Russia on the basic principles of a code of behaviour in world affairs. Herr von Weizsäcker said it would be facile to expect Moscow to show willing on disarmament unless the West also offered the prospect of contacts in other sectors, such as economic affairs, trade and energy. Security and peace in Europe could only be taken as a twofold task, that of strengthening the West's defences while pursuing an active Ostpolitik. He referred to intra-German ties as an example of the continuing validity of this twofold task facing the Western alliance. They were, he said, an integral feature of Bonn policy and endorsed by all parties. They were also a means by which tension between the superpowers might be reduced. Herr von Weizsäcker seems on his first visit to Washington as Berlin's governing mayor to have succeeded in linking Berlin and world affairs in such a way as to allay anxiety about the city's politics coming to look a little provincial. Even American listeners who were not always of his opinion clearly showed Mayor Weizsäcker respect.

Thomas Kielinger  
(Die Welt, 19 September 1981)

IN THIS ISSUE	
WORLD AFFAIRS	Page 2
SECURITY	Page 4
MOTOR INDUSTRY	Page 9
CINEMA	Page 10



President Reagan and Berlin Mayor Richard von Weizsäcker at the White House.  
(Photofax)

## Tip-toeing through the EEC cash-reform minefield

Bonn has decided to give priority to European Union on the agenda of the Common Market summit next month. By taking this line, Bonn has chosen what, politically speaking, is the last straw for changing the financial framework of the EEC. The problem in a nutshell is that two of the Ten, Britain and Germany, do not want to be the paymasters of Europe any longer. And the other eight have no intention of letting the flow of funds from Brussels slow to a trickle. The summit will be in London on 26 and 27 November, and there is no doubt that something needs to be done. The process of European integration

begun 30 years ago badly needs a fresh unifying factor to prevent the EEC from falling apart at the seams. The initial debate on the instructions to the European Commission in Brussels to arrive at a new basis for the Community's financial structure and for the costly Common Agricultural Policy has shown that the EEC cannot survive a reform without political backing. The only way in which fresh funds could be channelled into the EEC kitty would be to step up the percentage of value-added tax revenue member-governments have to remit to Brussels. But an increase on the current one per cent would be political suicide in Bonn given the debts already envisaged as part of the 1982 national budget. The fuses for this particular political dynamite have already been set, since Denmark, France and Ireland have clearly said there must be no changes in the current system of farm-price guarantees. Yet the Common Agricultural Policy accounts for two-thirds of the total EEC budget of DM50bn this year and nearly DM60bn in 1982. In electing to press for progress on European Union, Bonn considers that the inevitable bickering over cash might better be conducted under the protection afforded by a European Union. Bonn is well aware that it would have to assume responsibility for the Common Market's breakdown if things go wrong. The breakdown of the EEC's customs union, for example, which has been in force for 13 years, would hit German exporters hard; they do nearly half their trade with EEC countries. If this happened, other Common Market members would not be able to continue. Continued on page 3



(Cartoon: Peter Loge/EC-Magazin)

## WORLD AFFAIRS

## The realities behind a zero missiles option



Chancellor Schmidt and Secretary of State Haig are keen to reach agreement on missiles and negotiations.

The intensity of demonstrations and riots when Haig visited West Berlin was not able to hide this.

The two, of course, were bound to demonstrate harmony and cooperation in the face of the anti-American sentiment which culminated in a pro-Soviet campaign.

But did Mr Haig and Herr Schmidt reach agreement on medium-range missile negotiations with a view to the zero option?

Both mentioned the subject and each in his own way, but with diplomatic circumspection, indicated that while he might accept the idea as a theoretical concept he did not consider it a practical possibility.

Mr Haig was able to state his views frankly and without prevarication. Herr Schmidt had to make do with indirect intimations.

The Chancellor had to be more circumspect because his party, the Social Democrats, regards the twofold NATO decision (insofar as it still endorses it at all) as little more than a means of reaching agreement on arms limitation.

What shape might or must preparations for a zero option take? Let us assume the Soviet Union were prepared to scrap its land-based missiles (the SS-4s, SS-5s and SS-20s that missile modernisation is all about).

If this were the case the NATO countries would doubtless have difficulty in implementing a missile modernisation programme aimed at the United States stationing Pershing 2 and Tomahawk missiles in Europe.

The missile debate usually ignores the East Bloc's existing land- and sea-based devices with a range of between 1,000 and 5,000 kilometres but also in other categories that are no less of a nuclear threat.

The long-range SS-11s can cover intercontinental distances but are aimed solely at continental targets. They appear to be in the process of being replaced by SS-19s, which are likewise both continental and intercontinental in range.

The short-range Frog, Scud and Scale-board missiles are capable, depending on where they are based, of hitting targets in Germany and neighbouring countries.

They too are in the process of being replaced, by SS-21s, 22s and 23s, all of which can cover a wider range.

Let us again assume that Soviet medium-range missiles in these categories were scrapped in return for a US undertaking not to station a new generation of comparable missiles in Europe.

A zero option along these lines would be more likely to increase, not reduce, the nuclear threat to NATO territory, especially Germany.

NATO would then lack an adequate US deterrent to the instruments of intimidation at the Soviet Union's disposal.

In this state of affairs the United

States would have to choose between an immediate long-range missile strike against the Soviet Union and instructions to NATO to fight it out with short-range tactical nuclear weapons.

Theatre nuclear weapons would devastate Europe on both sides of the Iron Curtain while sparing the sanctuaries of the superpowers.

Alexander Haig is well aware of this fact. So is Helmut Schmidt. That is why both regard the zero option as no more than a negotiating tactic and certainly not as a strategic objective for security policy.

So Washington, abiding by the NATO security concept, will be aiming at arms limitation rather than at dispensing with arms altogether.

It will be trying to persuade Moscow to agree to a serious solution to the problem that ensures for both sides equality of defensive opportunity and would thus rule out any imbalance in offensive capacity in the East Bloc's favour.

That was why the NATO missile modernisation proposal was limited from the outset to 572 missiles even though the East Bloc's existing land-, sea- and air-based medium-range capacity is already four-and-a-half times higher in terms of both warheads and megatonnage.

The Soviet Union has thus shown scant inclination to make to with its existing capacity.

The neutron device, which was obviously mentioned by Chancellor Schmidt and Secretary of State Haig in their talks, has virtually nothing to do

with anything that has been mentioned so far.

At some stage and in some context or other the neutron bomb is, as was stated four years ago, scheduled for inclusion in talks. But it is not the subject of negotiations currently envisaged by the United States and the Soviet Union.

The neutron device is intended solely for short-range use as a Western deterrent and counterweight to the East Bloc's tank divisions.

And Warsaw Pact tanks are intended for use in intimidating an opponent in the conventional sector and below the nuclear threshold.

So the neutron bomb is best suited for inclusion in an East-West settlement on arms limitation in this sector.

The decision to manufacture the device thus did not call for consultation with Washington's NATO allies. Consultation will only be needed if the neutron bomb is to be stationed in NATO countries.

## Not only bad memory, but also hypocrisy

Mr Haig has said time and again that consultations will then be held. America's procedure of first manufacturing the device, then holding NATO consultations when it comes to stationing it corresponds exactly to proposals made by Herr Schmidt in 1977 and 1978.

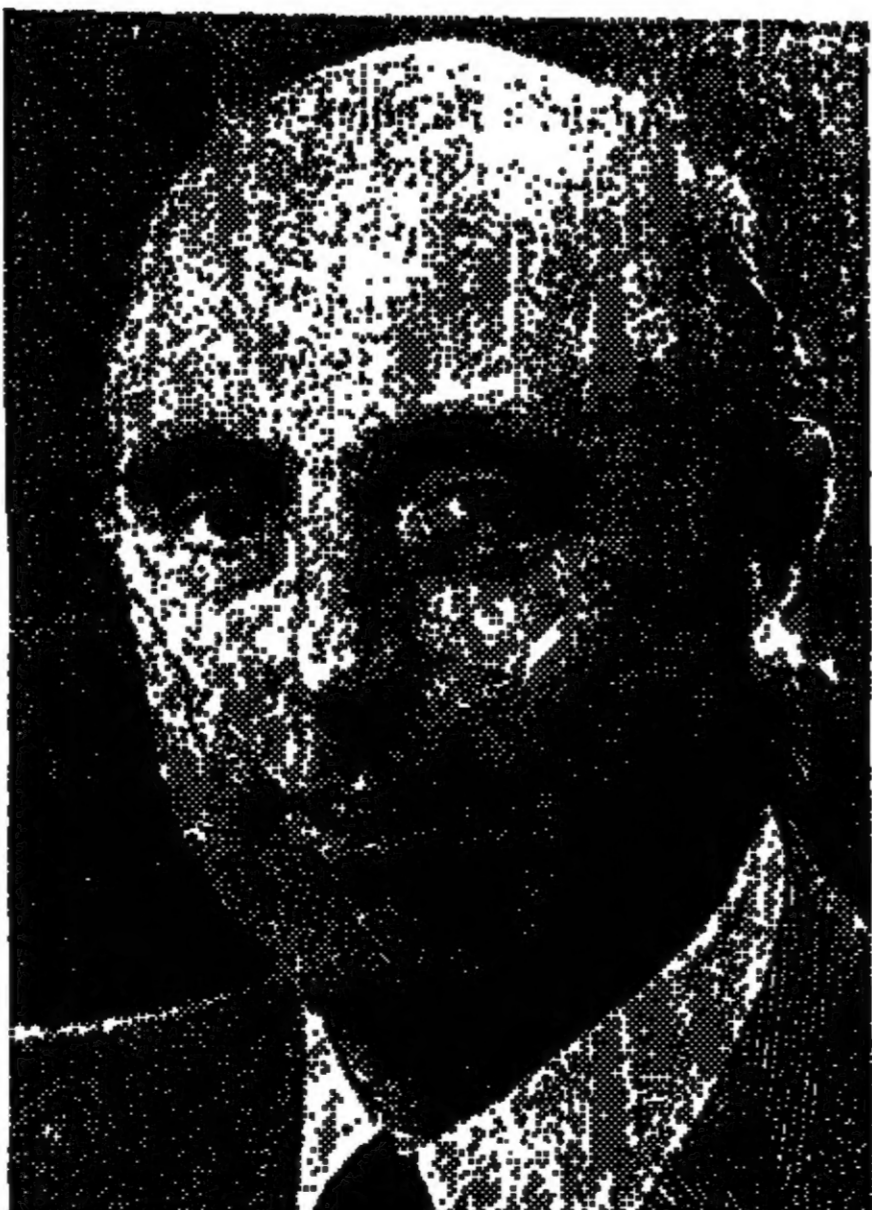
The uproar the US decision has prompted in Germany is a sign not only of a poor memory but also of hypocrisy.

How are we to say yea or nay to the manufacture of the device when we are unable even to reach a decision on whether or not to allow it to be stationed in this country?

Wolfram von Raven

(Rheinischer Merkur/Christ und Welt, 18 September 1981)

## Von Wechmar wins rare accolade



Rüdiger von Wechmar

(Photo: Interpress/Sundabildstelle)

South issue was largely due to the fact that it took time to adapt to the situation resulting from the change in the Washington administration.

The outgoing president's last official act on 15 September was to open the 36th General Assembly and to supervise the election of his successor.

## Something to be learned from Haig's even temper

The way in which US Secretary of State Haig took in his stride the mass demonstration against his visit to West Berlin and against US foreign security policy should be a lesson for the demonstrators.

It could also be taken to heart by some of their more outraged critics. Unfortunately, neither are likely to take the lesson seriously.

It cannot have come easily to Haig, the former NATO supreme commander in Europe, to see the demonstration as proof of the strength of democracy and of the commitment to democratic institutions.

Yet not for a moment did he lose his temper in this way.

Whatever some of the demonstrators may know and feel about the United States, in the middle of the Vietnam war hundreds of thousands of Americans were able to demonstrate their protest vociferously against the war while the country was waging.

No-one was prosecuted in US courts for a dissenting opinion or branded a traitor to the fatherland.

Many features of current US policy may warrant trenchant criticism but Americans have not for a moment considered imposing restrictions on freedom of opinion.

Demonstrators made use of this freedom in Berlin. They had every right to do so. But if they expect others to respect their views they must think again.

Some of the demonstrators were as unaware of the historic background as they were accused of being. One

Continued on page 3

Since the Asian group which, under the rota system, was next in line for the presidency could not agree on a new president, it was only natural that there would be a neck-and-neck race and that a second ballot could become necessary.

The two most promising candidates, Bangladesh Ambassador Khwaja Nazimuddin and the Iraqi diplomat Ismat Kittani (who were subsequently tied on second ballot so that Kittani ultimately won by drawing lots).

Von Wechmar will stay in New York until October when Foreign Minister Genscher will officially introduce him to the world economy.

Despite Helmut Schmidt's high regard for President Reagan, whom he calls "an

Rüdiger von Wechmar will then become ambassador to Rome.

Gitta Ziemann

(Die Welt, 16 September 1981)

**The German Tribune**  
Publisher: Friedrich Rahnke, Editor-in-Chief: Heinz Editor: Alexander Anthony, English Editor: Simon Burnett, German Editor: Georgine Ploos.  
Friedrich Rahnke Verlag GmbH, 23 Schöneweg Hamburg 78, Tel.: 22 55 1, Telex: 02-14782.

Advertising rates: 10 DM per line, 13 DM per line for 10 lines, 15 DM per line for 20 lines, 18 DM per line for 30 lines, 20 DM per line for 40 lines, 22 DM per line for 50 lines, 25 DM per line for 60 lines, 28 DM per line for 70 lines, 30 DM per line for 80 lines, 32 DM per line for 90 lines, 35 DM per line for 100 lines.

Printed by Druck- und Verlagsanstalt Friedrich Rahnke, Breitenburger Straße 10, 2000 Hamburg 1, Germany. Distributed in the USA by The German Tribune, Inc., 540 West 24th Street, New York 10011.

All articles which THE GERMAN TRIBUNE publishes in cooperation with the editorial staff of leading newspapers of the Federal Republic of Germany are complete translations of the original text. They are not abridged nor editorially modified.

If correspondence please send your address, which appears on the wrapper, to the editorial staff.

## HOME AFFAIRS

## Politicians wonder: will spring bring storms?

The dust has settled between the coalition partners after the wrangle over next year's budget.

What remains are some pretty nasty

experienced politician, the Chancellor criticises the fallacy of his supply-side policy and the tax cuts because these will not help to reduce the budgetary deficit.

Reagan's efforts to introduce further spending cuts are therefore seen in a positive light in Bonn.

America's unemployment rate is likely to be 8 or 9 per cent next spring; 25 per cent of the jobless are juveniles, of whom 50 per cent are black.

In view of the uncertainties that result from such a development and the fact that nobody knows what the November 1982 elections to both Senate and House of Representatives will bring, Bonn considers it likely that there will be an about-face on economic policies in the United States some time between Easter and Whitsun.

But the shot in the arm of the world economy could well come too late. The Chancellor is said to consider the danger of a world-wide depression in the near future as very real.

On international relations, Schmidt thinks that we are on the threshold of one of the most dramatic phases of world politics. The friction points between the superpowers have multiplied and the exchange of signals has diminished.

President Nixon was a known quantity and calculable to the Soviets — unlike President Carter.

Ronald Reagan, on the other hand, is not yet calculable because he himself is still trying to find his feet.

Bonn makes no bones about its conviction that Brezhnev is earnestly concerned about the preservation of peace.

For all, it was Count Lambsdorff, FDP's most energetic conflict strategist, who, during the budget debate in the Bundestag, called out to the opposition: "Not only do you not have an alternative but you are no alternative."

This is sort of remark on which Chancellor Schmidt bases his renewed optimism that the coalition will survive in 1984. Yet: "Who knows what sort of world we'll have next spring?"

His applies in equal measure to all politics and the consequences for the Federal Republic of Germany.

There is much that has become more calculable in international affairs and the world economy.

Despite Helmut Schmidt's high regard for President Reagan, whom he calls "an

Continued from page 1

**EEC cash reform**

Continued from page 1

member countries would not hesitate to let full rein to their leanings towards protectionism and impose import restrictions to help home industry.

At least two-and-a-half million jobs in the Federal Republic of Germany would be in jeopardy.

So in this tight-rope act Bonn must consider whether it might not be better to make a full sacrifice to the altar of peace than to accept the negative consequences of a breakdown of the Com

Helmut J. Weigand

(Rheinische Post, 21 September 1981)



experienced politician, the Chancellor criticises the fallacy of his supply-side policy and the tax cuts because these will not help to reduce the budgetary deficit.

Reagan's efforts to introduce further spending cuts are therefore seen in a positive light in Bonn.

America's unemployment rate is likely to be 8 or 9 per cent next spring; 25 per cent of the jobless are juveniles, of whom 50 per cent are black.

In view of the uncertainties that result from such a development and the fact that nobody knows what the November 1982 elections to both Senate and House of Representatives will bring, Bonn considers it likely that there will be an about-face on economic policies in the United States some time between Easter and Whitsun.

But the shot in the arm of the world economy could well come too late. The Chancellor is said to consider the danger of a world-wide depression in the near future as very real.

On international relations, Schmidt thinks that we are on the threshold of one of the most dramatic phases of world politics. The friction points between the superpowers have multiplied and the exchange of signals has diminished.

President Nixon was a known quantity and calculable to the Soviets — unlike President Carter.

Ronald Reagan, on the other hand, is not yet calculable because he himself is still trying to find his feet.

Bonn makes no bones about its conviction that Brezhnev is earnestly concerned about the preservation of peace.

For all, it was Count Lambsdorff, FDP's most energetic conflict strategist, who, during the budget debate in the Bundestag, called out to the opposition: "Not only do you not have an alternative but you are no alternative."

This is sort of remark on which Chancellor Schmidt bases his renewed optimism that the coalition will survive in 1984. Yet: "Who knows what sort of world we'll have next spring?"

His applies in equal measure to all politics and the consequences for the Federal Republic of Germany.

There is much that has become more calculable in international affairs and the world economy.

Despite Helmut Schmidt's high regard for President Reagan, whom he calls "an

Continued from page 2

read: "The next wave of bombers won't be dropping rains."

Rosinenbomber, or raisin bombers, was a nickname given to the aircraft planes that kept West Berlin supplied with essential commodities during the post-war Soviet blockade.

So even the protest marchers vaguely recalled the 1948/49 Berlin blockade. It is surely but a short step then to recall that freedom of speech and freedom to demonstrate are unknown or nearby as in the eastern part of the city.

But this short step would soon have put paid to the demonstrators' view of world affairs, and especially America's role in them, in terms of black and white.

A wide range of views are fundamental to freedom as understood in the West, Mr Haig said, which was why there would always be differences of opinion.

The problem is that the current US administration does not seem to be unduly worried what others think.

There can be little doubt that President Reagan in particular finds it extremely difficult not only to tolerate views other than his own but also to bear them in mind.

One high-ranking government official said recently: "I'd be much less at ease if the Suslov were at the helm in the Kremlin." Brezhnev, he said, was in fact much more cautious than Khrushchev and it is this that has convinced the Chancellor that Washington and Moscow will earnestly negotiate talks to prevent a new arms race.

Yet, Bonn insiders say, the Chancellor feels that the Russians have "left him in the lurch".

Despite the declaration of intent which Schmidt and Brezhnev signed in Bonn in May 1978 to the effect that "the Soviet Union would try to maintain an approximate balance of power in Europe", the Kremlin has built up a supremacy in medium-range missiles.

Speculation as to whether Brezhnev has yielded to pressure from the Politburo majority is to be explored by Schmidt at his talks with the Soviet leader in Bonn next November.

Bonn's view of the current world situation is bleak.

Since US fighter planes shot down two Libyan aircraft in the Mediterranean, it has become obvious how swiftly a regional war can break out. And then there is the possibility if a third oil price shock.

On Poland, Bonn considers that the odds of the whole thing blowing over without outside intervention are fifty-fifty.

Though Bonn has information that seems to indicate that the Warsaw Pact naval exercises in the Baltic had been scheduled before the Polish crisis, the war games are nevertheless seen as a bit of sabre rattling to intimidate Poland.

But what if this show of military might did not pacify Poland? The Soviet Union could then be forced to act — with incalculable consequences.

When asked about his problems with the coalition and the general difficulties at home while the world is full of uncertainties, Chancellor Schmidt tends to become pugnacious, saying: "I have no intention of relinquishing the helm in a situation like this."

Hermann Dexheimer

(Allgemeine Zeitung Mainz, 12 September 1981)

Yet this is an essential feature of any pact the members of which are free countries.

World peace is too serious a matter to be left to the tender mercies of a single government, especially when the head of the government in question is not well versed in world affairs.

What is more, Mr Reagan tends to upset even those who are well disposed towards him with his continuous insistence on strength and predominance.

He may only be saying what many of his fellow-countrymen think, but that does not change matters in the least.

This is the point at which criticism must be brought to bear, not by means of a quotation taken out of context, as has yet again been the case with Secretary of State Haig.

Mr Haig simply did not say there were more important matters than peace, and anyone who thinks he did can read his exact words in back issues of this and other newspapers.

But some people would not dream of dispensing with such a neat line of argument, no matter how contrived it might be.

In the age of nuclear weapons, Mr Haig clearly told a US senator who ques-

ied him as to his views on the subject, responsibility for peace has grown even greater.

But, he added, there were issues it was worth fighting for, and he recalled that America had been called on to fight genocide and dictatorship more than once this century.

Most of the Berlin demonstrators would probably not disagree with this viewpoint for a moment.

They, like many others in Germany, feel people in the Third World have a right to fight when they are oppressed and exploited on account of their race.

Without a doubt many of the demonstrators view with a mixture of admiration and anxiety the course of events in Poland, where the workers have joined forces in protest against a system they feel is unjust and hostile to freedom.

Polish workers are also well aware there is nothing more important than peace, yet they are still engaged in their struggle, just as people in Afghanistan are fighting and people in Vietnam were up in arms until a few years ago.

You can always apply double standards, but the findings will then always be wrong too.

Werner Holzer

(Frankfurter Rundschau, 14 September 1981)

## Women win a test case on equal pay

Twenty women workers of the Heinze photo laboratory in Gelsenkirchen have won a test case on equal pay.

The Federal Labour Court ruled that they were entitled to the same DM1.50 an hour additional pay as male workers.

It was immaterial, said the court, whether the women's employment contracts differed from those of their male fellow workers or not.

What matters is the following question: "Is there any indication that women receive lower wages than men for the same work? The onus of proof that the men receive higher pay because their work is different rests with the employer."

This means that the employer must prove that the work done by the two sexes is not the same.

To provide some criteria to go by, the court stressed that what mattered was not conditions in the company as a whole but in the particular department under dispute.

The trade unions have welcomed the ruling, saying that "it provides further guidance on previous positive rulings by the same court and on the same issue. The court has thus encouraged women to fight inequalities with the help of their unions."

Union spokesman Irmgard Blättel said employers were using ever more clever subterfuges in their bid to do women out of their rights. This was borne out by the court proceedings.

Bonn Family Affairs Minister Antje Huber sees the ruling as a "clear sign" for the future wage structure over and above union rates.

She stressed that protective legislation for women must no longer be permitted to be to their detriment. This was a reference to the ban on night for women. The "Heinze women" had in fact worked the shift from 8 p.m. to 3.15 a.m.

(Frankfurter Allgemeine Zeitung für Deutschland, 11 September 1981)

SECURITY

# Raids raise fear of a new RAF terror campaign

Raids on the US air base in Ramstein and the SPD office in Frankfurt and the Heidelberg bid to kill General Kroesen, C-in-C of the US Army in Europe, confirm security authority fears. The terrorist assaults bear out information the German security authorities have gathered over the past year.

They also shed light on the aims and strategy of the urban guerrilla group known as the Red Army Faction, or RAF.

They are all the work of the RAF, the authorities are convinced. They all took place in the RAF's operational area; the Rhine-Main region, especially Frankfurt, and northern Baden-Württemberg.

The Ramstein raid is felt to have been the first in Germany by the RAF itself since the abduction and murder of employers' leader Hanns-Martin Schleyer in autumn 1977.

The organisation is felt to have been partly to blame for the 25 June, 1979 Brussels, bid to assassinate the supreme commander of Nato in Europe, General Alexander Haig jr.

The 1979 and 1980 reports on extremist activities in Germany published by the *Verfassungsschutz*, or Office for the Protection of the Constitution, the Cologne-based anti-espionage agency, said there had been no more RAF raids in Germany.

The current intensification of the RAF's activities, especially against US installations, has been in evidence since last year, since when the *Verfassungsschutz* has registered an RAF offensive.

There were also signs that the guerrilla group was striking at fresh targets after having concentrated, since 1977, on US installations.

While the struggle against US imperialism remains an important RAF objective, terrorist interest now centres on German institutions too, especially those of the SPD, or Social Democratic Party.

SPD politicians are felt to be the major lackeys of imperialism in Europe. In an RAF strategy paper found in Heidelberg last autumn, a number of Social Democrats came under fire.

They included Bonn Chancellor Helmut Schmidt, Hans-Jürgen Wischnewski, Horst Ehmke, and the Minister of State at the Foreign Office, Peter Corterier.

The raid on the SPD office in Frankfurt is felt to testify to this new orientation. It also points to cooperation between the two wings of the RAF.

They are the illegal RAF, which is the hard core of 15 to 20 terrorists, who have gone underground, and the legal RAF, a grouping of about 150 people recruited from members of what used to be known as Antifa (short for anti-fascist) groups.

Neither wing is felt to have increased in manpower of late, although the 15 to 20 hard-core terrorists must be taken to mean 15 to 20 over and above the similar number who have been on the wanted list for years.

The letter to a Frankfurt newspaper claiming responsibility for the attempt on General Kroesen's life in many ways resembles similar letters in connection with the Ramstein and Frankfurt raids.

It stresses the general's importance for US defence policy in Europe: "He is one of the US generals who are effectively in charge of imperialist policy in Western

Europe as far as the Gulf inasmuch as he decides on the means of confrontation."

The letter was posted in Aschaffenburg four-and-a-half hours after the assault and is felt to be genuine even though it does not contain any of the usual evidence in support of its claims.

It purports to have been written by a Gudrun Ensslin, commando unit of the RAF and claims that for years files on left-wingers in the Federal Republic of Germany have been kept at US Army headquarters in Heidelberg.

As in previous letters the terrorists claim to be involved in the struggle against US imperialism, which in its turn is fighting the revolutionary movement in Western Europe and the Third World.

The Frankfurt raid is attributed to the legal wing of the RAF, which in a letter signed "Solidarity with the RAF" claimed responsibility.

Great importance is attached to the legal wing in the latest *Verfassungsschutz* report. But the distinction between the two wings cannot be rated hard and fast.

The legal wing forms the basis for recruitment for the illegal wing. All newcomers to hard-core commando units in recent years are said to have arrived via the legal wing.

The illegal wing is said to adopt the same political and strategic line as the hard core and to support the illegal wing with publications, demonstrations and press conferences.

It is also said to coordinate prison visits to RAF convicts and thus to partly arrange communications between terrorists serving goal sentences.

Campaigns, demonstrations, sit-ins and occupations organised by the legal wing are intended to publicise the illegal, underground wing and to recruit fresh support among left-wing extremists.

One such bid was moderately successful earlier this year when the legal wing sought to establish itself in the squatters' movement.

The main motives mentioned in the letter claiming responsibility for the Frankfurt raid were the Nato missile modernisation decision and the US government's decision to manufacture the neutron bomb.

Both were endorsed by the Bonn government, but the terrorists see the SPD as their main domestic adversary: "If the SPD now wants to play the role of an intermediary as a party of peace, it is clear that what it means is the peace of the ruling class, peace on behalf of US imperialism." The terrorists reject as an instrument in their war any attempt by the Social Democrats to start talking with youthful protest campaigners. The SPD, they say, is only trying to gain time.

This is said to indicate what worries the SPD, "that the struggle will no longer take place along lines controlled by the SPD but join forces with the RAF's armed struggle against US imperialism."

The Americans are said to be deploying against the RAF the same anti-guerrilla units as in the Third World.

The illegal wing likewise says its raids on US personnel and installations are in protest against the Nato missile modernisation decision and the US decision to manufacture the neutron bomb.

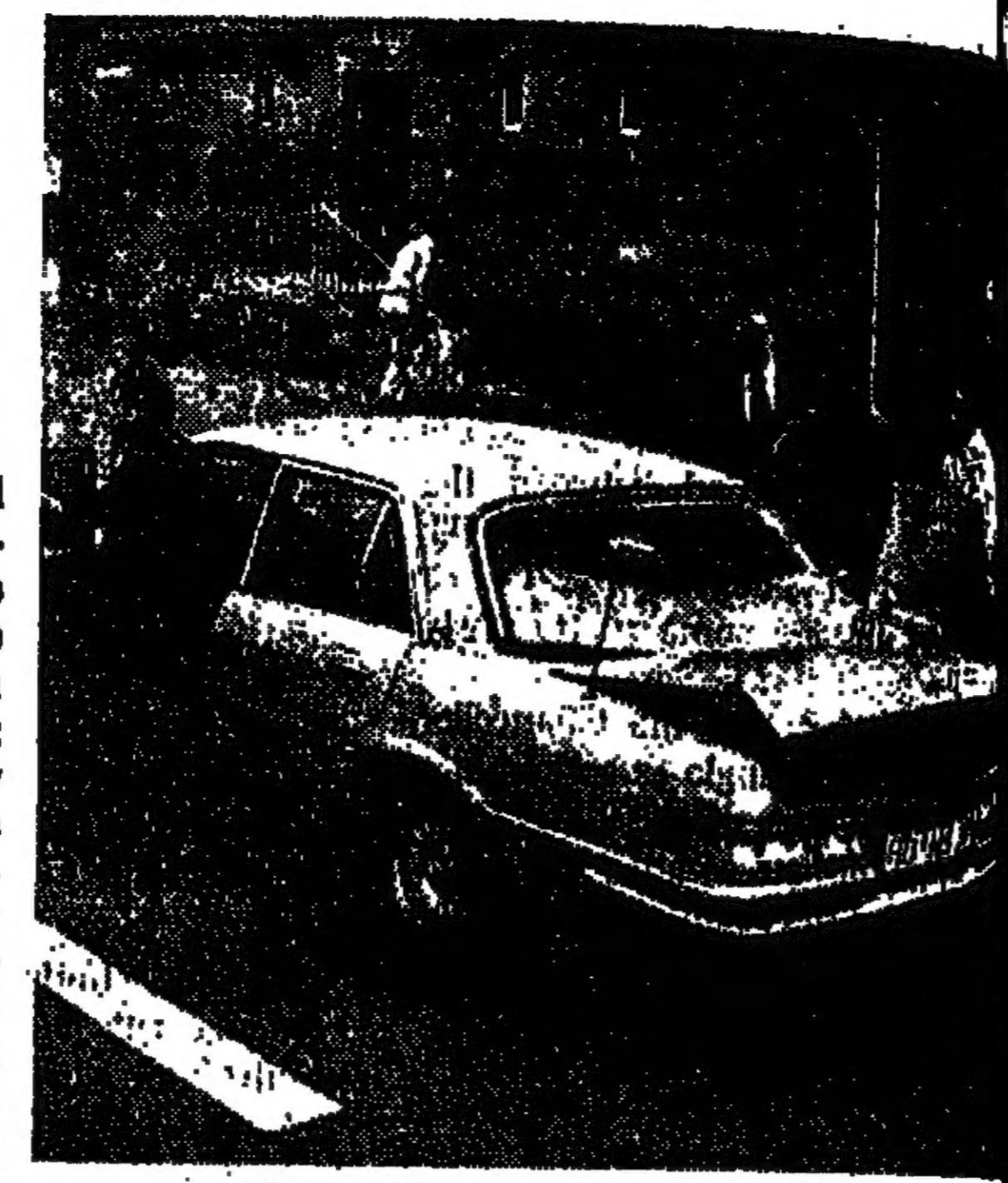
In a self-styled commando report on the Ramstein raid the writers also criticise the peace movement: "To all resignation and flights of fantasy about escaping from the nuclear inferno, accompanied by helpless pacifist wishes, we say the monster (of US imperialism) can be beaten provided we at the heart of the beast intensify resistance in keeping the earnest of the situation."

This letter, dated 31 August, showed that the RAF was no longer content to attack installations rather than individuals.

The heading of the commando report referred to both installations and the "strategies of the US military machine" as targets for attack.

So the attempt to assassinate General Kroesen would seem to be no more than a first step.

Günter Bannes (Frankfurter Allgemeine Zeitung für Deutschland, 17 September 1981)



General Kroesen's car after the blast.

## Attack part of unlucky coincidence

Gunshots and an anti-tank missile fired at the car of General Kroesen, commander-in-chief of US Army in Europe, belied the coincidence that Germany was not in "hot autumn."

Terrorists in the Federal Republic of Germany cannot complain about lack of support.

While leading members of the Army Faction stood trial in Düsseldorf and Frankfurt, the RAF or members of the similar groups demonstrated with their prototypes as now unveiled are neo-terrorist assault on the four-star US general in Heidelberg that their claim to energy is still unimpaired.

It is now for the chief public prosecutor's office in Karlsruhe to plumb the plain to the public why, as with the bomb explosion at the US air force base in Ramstein, the raid could not have been planned.

As the third attack on US personnel and installations in Germany in a matter of weeks it also had foreign policy implications.

US public opinion could hardly be blamed in the circumstances if it were to gain the impression that anti-Americanism was rampant in Germany.

Secretary of State Haig drove through empty streets in West Berlin while enormous disarmament protests ended in street fighting, and now a general narrowly has escaped serious injury or death in Heidelberg.

The truth is that circumstances have little connection happened to coincide at what could hardly have been more inconvenient moment.

Politically there is not the common denominator linking the Heidelberg terrorists and critics of modernisation who have taken to the streets to voice opposition to the plans.

But can the average American rely on mass media coverage for telling he may happen to know a subtle distinction? Bonn now needs backing from politicians who have come under attack.

Continued on page 5

## THE MOTOR INDUSTRY

# Vision of the shape of things to come

What will the motor-car look like in the year 2000? No-one can say for sure, but a long-range forecast means impossible.

One could even design a prototype, though it would naturally be based on current technology as it is today. Any engineer would relish the prospect.

The motor industry showed interest in 1978, Bonn Research (now Federal Minister Volker Hauff announced details of the Auto 2000 research project and promised to make it available.

Four applications were eventually granted. They were from Mercedes-Benz, Audi, NSU, Volkswagen and a foursome of university departments in Aachen, Berlin, Darmstadt and Stuttgart.

They all had to get their ideas off the drawing-board and on to four wheels. All four unveiled their prototypes for the Frankfurt motor show.

The Ministry brief was to concentrate on three aspects: energy saving, environmental compatibility (less noise and less pollution) and safety.

The four design teams were told that these objectives were of equal importance and none was to be given precedence at another's expense.

The vision of the shape of things to come is automotive design and engineering to be suitable for everyday use in the assembly-line manufacture.

It did not, of course, mean that the prototypes as now unveiled are neo-precursors of tomorrow's production-line models.

The Audi NSU comes closest to embodying today's middle-of-the-range family saloon. It is a five-seater and fair-plain to the public why, as with the bomb explosion at the US air force base in Ramstein, the raid could not have been planned.

Its improvement has been accompanied by a great many minor changes, for instance, windows flush with the car body.

The car roof and underbody are made of lightweight sandwich units glued to the supporting bodywork. Safety features in the passenger compartment include air-conditioning and a children's seat built into the rear seat unit.

The engine is a standard combustion engine, designed for maximum economy combined with an afterburn system. The Audi car of the future has front-wheel drive and such good noise insulation that the tyre noise is virtually all in the cabin.

Mercedes-Benz, like Audi, NSU, decided in favour of a large and comfortable prototype equipped with all the extras that are the hallmark of a better class of car.

The aim was to demonstrate that a car designed for long-distance travel, for example, would continue to be a car, could be built for low fuel consumption.

Three engines were considered: a gas engine with advanced ceramic parts, a diesel engine with a four-cylinder petrol engine cut-off and a six-cylinder diesel engine with twin afterburn systems.

The Audi had a wind resistance rating of 0.3. The Mercedes has slightly less. So it is naturally streamlined and aerodynamic, as one would expect.

As in the Audi's case, the Mercedes has a soft plastic concertina zone in front that is intended to protect pedestrians more effectively in a crash.

An information system relays important data to the driver. There is an anti-blocking system for the brakes, a distance indicator that warns the driver when he is too close to the vehicle in front for the speed he is travelling at and a device that prevents wheel spin during acceleration.

The Audi had a wind resistance rating of 0.3. The Mercedes has slightly less. So it is naturally streamlined and aerodynamic, as one would expect.

The four university departments, whose work was coordinated by Professor Breuer of Darmstadt, paid special attention to features designed to ensure maximum protection for pedestrians and two-wheelers in a crash.

All collision zones of the University car are cushioned and smooth. Special care has also been taken to ensure safety in the event of side-on collisions.

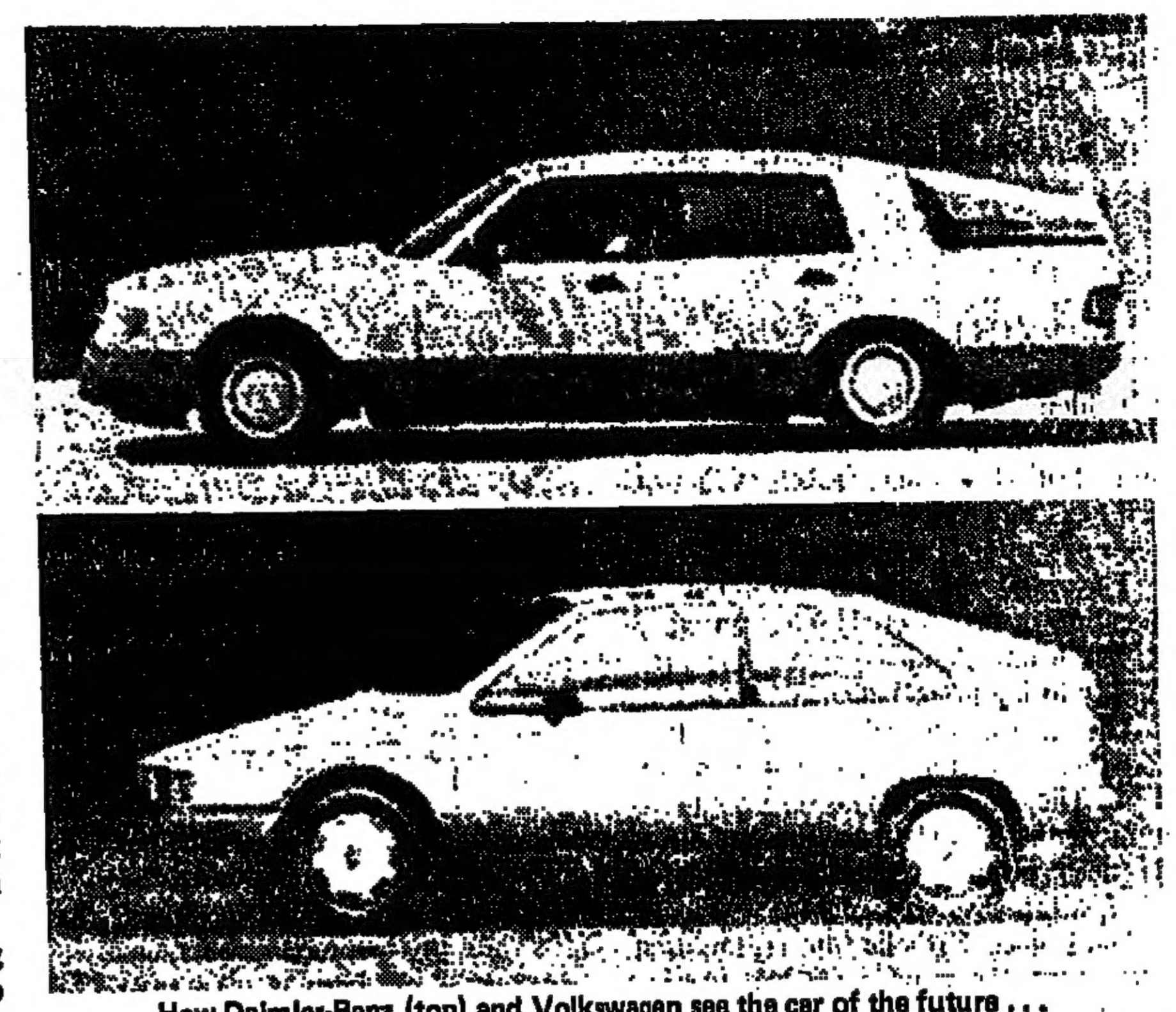
Their model is a four-door estate car with front-wheel drive and a wind resistance rating of 0.25 or less. It is powered by a diesel engine with fuel injection and an afterburn system developed by MAN on the basis of a Citroen engine block.

The engine is linked with an automatic transmission unit that is mechanical but electronically controlled. This model also has a driver information system.

Its fuel consumption is said to be 6.6 litres per 100km, or 19 miles per gallon. Performance is said to be on a par with that of the average family saloon today.

Volkswagen's is the only project to have been designed as a compact. Its interior is larger than that of the VW Golf (or Rabbit) but smaller than that of the Passat.

Its wind resistance at 0.25 is admirable; the Rabbit's rating is 0.42. Its car body includes a large proportion of aluminium and synthetic material.



How Daimler-Benz (top) and Volkswagen see the car of the future. (Photos: dpa)

The driver is assisted to a large extent by electronics, and not just in the supply of information (dashboard indicators are digital).

Heating and ventilation are microchip-regulated. The engine is cut out automatically when the car stops and started again using the special flywheel that continues to rotate.

Two engine versions have been devised: a three-cylinder diesel with fuel injection and afterburn that does about four litres per 100km, or 70mph, or a petrol engine with afterburn system. Both are insulated to be soundproof.

But they are only prototypes, of course. When might they become assembly-line reality?

Even if they had been designed with this possibility in mind (which they have not), it would take at least eight to ten years to get them on the road, even in the case of the Audi, which is the closest to being groomed for production.

Many production problems would need solving, much of the electronics has still to be put through its paces and the engine insulation is problematic too (the engine could well overheat).

But individual features of the Auto 2000 models could be harnessed for practical use earlier, and this is the view to be taken of the prototypes unveiled in Frankfurt.

They were to have been an important step in the direction of future developments, but the project has been accompanied by a political upset.

To the surprise of the design teams Bonn Research Minister Andreas von Bülow said at the unveiling ceremony that cash was no longer available for the test stage of the projects.

The three versions developed by motor manufacturers were from now on to go empty-handed. Only the model developed by the four universities was to be given further financial backing.

There was no other way in which he could carry out the budget cuts he had been called on to implement.

There was no way of telling why Herr von Bülow had waited until the presentation ceremony before divulging this information. It put paid to all previous undertakings and contracts, even.

The three directors who attended the ceremony, Volkswagen's Professor Fiala, Daimler-Benz's Professor Breitschwerdt and Audi NSU's Herr Piech, certainly said it was the first they had heard of the Ministry's change of plan.

They promptly said how disappointed they were. It was not so much the money. The prototypes would not go into mothballs; the manufacturers would themselves put them through their paces, although not, perhaps, as extensively as envisaged.

What so upset them was that long-term projects had been cancelled without warning, by only one party to the project. That would not be conducive to an atmosphere of trust between the donors and recipients of Research Ministry grants in future.

Satisfaction can only have been felt by critics who have felt all along that government backing of a financial kind was unnecessary for projects of this nature.

The motor industry, critics said, would have had to invest in similar development projects regardless whether or not grants were provided by Bonn.

This is not strictly true. The prototypes prove clearly that with funds available the research teams can afford to design features that are more futuristic and less geared to immediate technical and commercial possibilities.

They were thus able to give their imaginations a freer rein than is usually the case, and that was definitely to the advantage of the Auto 2000 project.

Gold Lingner (Frankfurter Allgemeine Zeitung für Deutschland, 18 September 1981)



How the university group sees its car of the future (top). Audi's version is above.

## ■ THE CINEMA

Golden touch  
for 'The  
Leaden Age'

Seldom can a film have been so incontrovertibly awarded the Venice film festival's Golden Lion as Margarethe von Trotta's *Die bleierne Zeit* (German title: *The Leaden Age*).

The jury was almost unanimous in deciding in favour of the German entry, it was learnt. A bid to award the prize jointly to it and an Italian film failed.

The panel, chaired by writer Italo Calvino, were not prepared to compromise. They were unimpressed by the argument that the German film had already been given several other awards at the festival.

The Roman Catholic film organisation had awarded it a prize. So had the International Association of Film Critics. There had been awards for the film's stars, Jutta Lampe and Barbara Sukowa.

This is an argument frequently accepted as a reason why the jury for the principal award should pass a film over that has already been heaped with honours.

At Venice this year an unprecedented number of awards went to *The Leaden Age*, a title which, one is bound to admit, does not sound an unduly hopeful note.

Frau von Trotta is adamant that it is not a film about terrorism or how terrorism comes about in Germany. She says she has no intention of delving into the motives of those who went underground politically.

She intended it to be simply a tale of two women. They are sisters, Juliane (Jutta Lampe) is a journalist and works for a women's magazine, Marianne (Barbara Sukowa) is a terrorist.

One believes in enlightenment, persuasion, peaceful change, the other in the use of force.

The one wants to involve the other in terrorism, the other to extricate the one from it. They work on each other, but to no effect.

It is a film about two women but Marianne, the terrorist, is seen solely from her sister's viewpoint. At one stage they start arguing in public, in a museum, about whether there is any point in violence.

In another scene Marianne and two fellow-terrorists rush into her sister's apartment late at night. Juliane and her boyfriend are embarrassed and at a loss what to say.

They are reluctant to throw out the uninvited visitors but unwilling to welcome them. "Say something" one of the terrorists demands, with a defiant look at Juliane.

She looks to one side, embarrassed, and says nothing.

The third encounter between the two sisters takes place in prison. They sit facing each other in a bare room. Two women warders stand guard while a prison official makes shorthand notes of their conversation.

The dialogue between them thus becomes an official concern. It is an oppressive scene and one that cannot fail to impress the onlooker.

Much has been written on the subject but it is different to see and feel, even on the screen, what it is like to forfeit the benevolent protection of the private, intimate side of life.

The two sisters start arguing again. The one feels working for a women's



Juliane (Jutta Lampe) at left and her sister Marianne (Barbara Sukowa) in 'Leaden Age' (Photo: Filmverlag der Autoren)

magazine is absurd and pointless, she feels throwing bombs is meaningless.

As the scene draws to a close we see them shouting at each other while the stenographer writes on impassively and one of the warders grins in *Schadenfreude*, or pleasure at their expense.

The last time the two sisters meet while both are still alive is again in prison, but this time they are separated by a screen. You have to press the button to speak, Marianne tells her sister.

They cannot speak simultaneously and hear each other, so they press their buttons and swap melancholic memories of childhood.

The sister in prison has lost weight; she is on a hunger strike. Not much is left of her wild rhetoric. What keeps her going is an expression of inner defiance.

Juliane sees Marianne for the last time in the mortuary. The lid of her coffin is removed to reveal a dreadfully distorted face.

Is it the face of a suicide or isn't it? Juliane doesn't believe this, the official version of her sister's death.

Up till this point her pragmatism has protected her from the loneliness and cold outlook of terrorism. But now she decides to cast caution and convention to the wind.

She sacrifices her career and her boyfriend in a manic bid to unearth proof that her sister did not, in fact, commit suicide but was murdered.

*The Leaden Age* is a one-sided film. It is bound to be because it shows the world from the viewpoint of a single person, so we see everything as the main character does (or wants to do).

This limitation accounts for much of the film's artistic fascination. There is no balance and no causes are shown, only effects.

The aesthetic balance one might expect of a TV play is not what Frau von Trotta has in mind. Her terrorist is a victim and deserves unconditional sympathy.

But ought there not to have been at least a reference to the cruelty of terrorism, not as an alibi or mere lip service but in deference to historical truth?

German cinemagoers who see the film may be well aware of the background and able to recall for themselves the facts that go unmentioned.

But one has one's doubts on seeing *The Leaden Age* in Italy, doubts whether it might not just be encouraging cheapster prejudice.

Searches conducted with a search warrant are embarrassing and unpleasant. So are conversations that cannot be held in private but only with a stenographer in the background penning busily away.

But such invasions of privacy and latter-day developments as top-security

wings at prisons have a past history. They are a response to a previous breach of the rules by terrorists, a breach of which the film makes no mention.

It is, of course, a film and not an essay, a filament of the imagination that cannot be measured in terms of real life. Or is there more to it?

"A connection between the characters in the film and people in real life," says the director, "exists only inasmuch as individuals and events in fact were the starting point but not the subject of my film."

Is *The Leaden Age* based on the Ensslin sisters (terrorist Gudrun was the girlfriend of Andreas Baader) or not? If not, why has actress Barbara Sukowa been quoted as saying:

"I suddenly realised, I was playing a woman with an unmistakable identity, a woman many people had known and spoken with yet someone I had never met."

"An entirely anonymous individual, some political prisoner or other, would have stimulated my imagination much more."

There have been additions and omissions, but basically the film tells the tale of Gudrun Ensslin and her sister Christiane, who plans this year to publish her findings on her sister's alleged suicide at Stammheim prison, Stuttgart.

So *The Leaden Age* comes very close to being a documentary, so much so that it must be assessed in terms of other than artistic criteria, especially historical accuracy.

But Jutta Lampe and Barbara Sukowa convey an extremely intensive impression of the interplay between different characters with a common past and of the psychological reasons behind what people will do.

Margarethe von Trotta illustrates her line of argument; she shows rather than asserts. The successive scenes, when summarised in prose, at times sound artificial, but on the screen they have a strange quality of actuality and immediacy. Slowly the audience are transported into the interior of the film, changing location and seeing what has long become a preconceived idea from a new and unaccustomed angle.

We are offered no conclusive theory about the ways in which terrorist activity originates. Frau von Trotta does not pretend to supply one.

Yet the film does show that the subject bears thinking about, and the Golden Lion awarded to *The Leaden Age* at Venice was a fitting tribute to a director who has chosen to go against the trend and not steer a wide berth of the present day.

Michael Schwarz

(Frankfurter Allgemeine Zeitung, 14 September 1981)

Fascism through  
the eyes  
of children

*Stern ohne Himmel* (German title: *Star Without A Sky*), a film directed by Ottokar Runze and based on a book by Leonie Ossowski, tells the tale of German fascism from the viewpoint of childhood.

It reflects the behaviour of adults, they courageous, opportunist, opinion-minded or given to inflicting against others.

But in the circumstances of the time the children have an enormous advantage over adults. In their childhood world they run no risk to life or limb only of being punished at school.

In the cellar of a house flattened in an air raid they illicitly eat their way through food they have "found" instead of reporting the find.

Then they are suddenly involved in politics when they discover, in the hideout, a Jewish boy who has escaped from concentration camp only to become their prisoner, as it turns out.

Like their elders they are caught in a cleft stick and forced to walk the tight rope between practical and moral considerations.

They feel sorry for the boy. They are motivated by opportunism. They are afraid of being caught. They are also worried their secret feasts will come to light.

Last but not least, unvarnished hatred drives a wedge into the solidarity of this previously inseparable group of wartime children.

When they no longer know what to do they turn to the adults for help, and the behaviour of the adults is reflected in that of the children, who have decided in favour of trying to help the Jewish boy.

When the Red Army is busy occupying the town and liberation is imminent the children manage to escape by the skin of their teeth.

Only one of them dies. He is the leader Youth activist, an informer out of conviction, who is killed as he tries to take up pursuit.

Director Runze set about filming the explosive tale in such an officially realistic manner that the undertones barely come to the fore.

There are few signs of the atmosphere of anxiety and furtive but enjoyable secrecy, of genuine persecution and cowardly decisions to err on the safe side and say nothing, of sympathy and hate-rejection.

Runze has opted for a conventional narrative form and it is seldom even by irregularities and jumps in the subject matter.

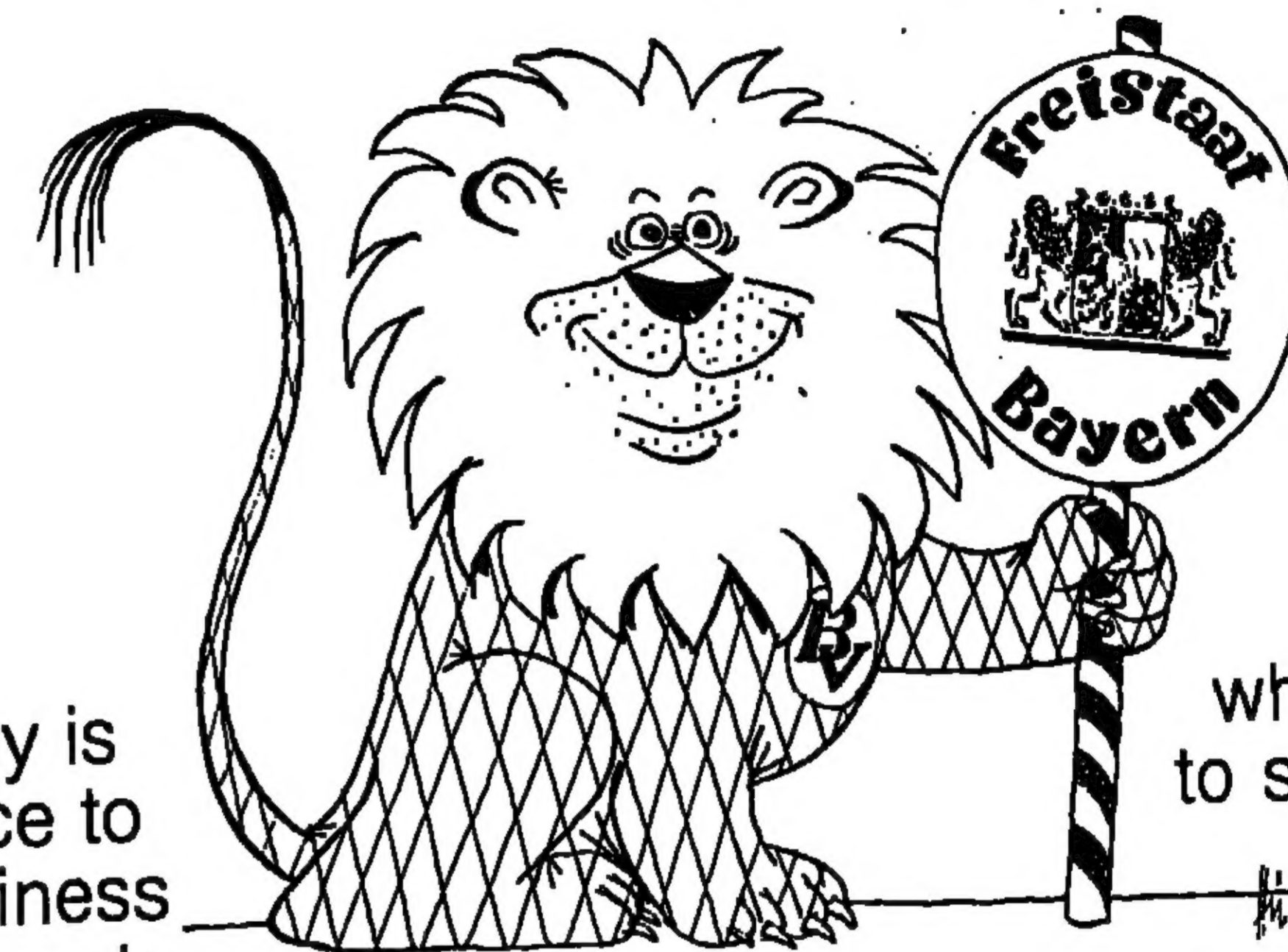
The bid to make a group rather than an individual the main character comes to grief on the way in which the tale is told. The camera lingers on minor details to underline authenticity in detail.

But this leaves no time to draw more than sketchy distinctions between individual members of the group.

The epic prose of narrative in place of logical sequence, sounds somehow wrong when there is not enough time for the breadth and images do little more than itemise contents.

The failure to transpose the real epic time into the limited screen time makes Runze's film fall far short of the decision realism that gives the best of German post-war cinema its power and less.

(Frankfurter Rundschau, 14 September 1981)

The BV Lion invites you  
to West Germany and  
the friendly Freistaat

West Germany is  
a good place to  
invest and do business  
in but Bavaria

wholesale banking  
to securities business.  
Not forgetting, of  
course, our

is attractive in its own special way.

Our borders are open for  
whatever assets our international  
business partners have to offer -  
whether money, technology,  
innovation, research or just plain  
good ideas!

We at Bayerische Vereinsbank, one  
of Germany's major banks, have  
experience in entering new markets  
and our international network, linking  
such key financial centres as London,  
New York, Luxembourg, Zurich, Paris,  
Tokyo, Bahrain, Hong Kong, Rio de  
Janeiro, Johannesburg, is there to  
help you gain that first and all-impor-  
tant foothold. With a tradition dating  
back to 1780 we are a proven  
partner and familiar with all types of  
financial transactions from retail and

specialty, mortgage banking, where  
our long-term bond issues provide  
added flexibility in investment  
financing.  
If you want to know more about  
the German market and the Bavarian  
business scene in particular why  
not contact the BV Lion?

Bayerische Vereinsbank  
Head Office - International Division  
Kardinal-Faulhaber-Strasse 1  
D-8000 MÜNCHEN 2  
Telephone: (089) 2132-1, Telex: 529 921.bvmd  
SWIFT: BVBE DE MM

UNION BANK OF BAVARIA  
(Bayerische Vereinsbank)  
New York Branch  
430 Park Avenue  
New York, N.Y. 10022  
Telephone: (212) 758-4664  
Telex: 126745 ubbnyk b



**BAYERISCHE  
VEREINSBANK**

INCORPORATING BAYERISCHE STAATSBANK AG

## RESEARCH

## A new way of keeping that corpse lifelike

Gunter von Hagens, a research scientist at Heidelberg University anatomy department, has hit on a new method of preserving plants, animals and anatomical specimens.

He calls his technique, which he is in the process of patenting, plastination, and it promises to have been the discovery of a lifetime.

It not only halts the process of decay but also keeps specimens looking as natural as though they were still alive and well.

Plastination, which involves injecting liquid plastic into the specimen in a vacuum, will be outlined by von Hagens at the sixth European Anatomists' Congress in Hamburg at the end of this month.

In the past it has been impossible to give perishable material a lasting consistency, either in rigid or flexible form, that resembled to any great extent the condition of the living object.

Dead skin, no matter how it was preserved, did not feel like skin. Hair did not retain its silky sheen. Eyes did not continue to look as though they were still capable of vision.

Anatomical collections had to make do without these qualities in their exhibits. But plastination changes all that.

Mummies were successfully embalmed in the hot, dry climate of Ancient Egypt, but experiments with embalming proved a failure in the temperate climate of Europe.

Besides, embalmers and taxidermists have it easier than anatomists, pathologists or forensic scientists. They only need to preserve the outward appearance of the dead departed.

Research collections of biological specimens are another matter, and specimens preserved in formaldehyde are pale and colourless.

Molecules are continually on the move, with the result that minute particles continually detach themselves from the specimen, discolouring the preservation fluid.

Collections steadily decline in value and require meticulous attention and maintenance. So any number of attempts have been made to devise new and more satisfactory preservation techniques.

At the turn of the century preservers began to use thermoplastics, including paraffin, but using paraffin has its disadvantages.

Biological substances shrink substantially in a bath of hot paraffin, grow opaque and lose their fine structure. They are brittle, sensitive to handling and, above all, highly flammable.

Another technique that failed to live up to expectations consisted of injecting Wood's metal into the specimen's veins and arteries.

Wood's metal melts at 60.5 degrees centigrade, but this temperature proved too high for tissue, which was regularly damaged.

Not until 1934, when Perspex was invented, did this technique prove more satisfactory. Transparent plastic could be poured into blood vessels, brains or kidneys of a specimen and took its time to solidify.

It made fine-patterned hollow parts of the body visible, such as the respiratory tract, once the surrounding tissue was cauterised away.

"My specimens, preserved by means of plastination," says anatomist Dr von Hagens, "differ substantially from all conventional methods of preservation or making the empty passages round the body visible."

His plastic reaches the individual animal, vegetable or human cell without causing visible damage.

For decades organic material preserved in accordance with his technique should remain in suitable condition for microscopic examination of its finer structures.

Von Hagens has been interested in chemistry since he was 16. He was born in 1945 near Potsdam, worked as an unskilled labourer and gained university entrance qualifications at evening classes.

He studied medicine in Jena, but spent much of his time with the chemists.

He failed in a bid to escape from the GDR and spent two years in prison in Cottbus before the Bonn government paid ransom money to secure his release.

He then finished his studies in Lübeck and moved, in 1976, to Heidelberg and the department of pathology at the university there.

He married a gynaecologist and applied for a scientific post at the department of anatomy.

There he saw how staff member Rudolf Knebel boiled the bubbles out of freshly mixed polyester resin to make blood specimens for educational purposes.

When polyester resin, a thick, honey-like substance, is mixed with a hardener or setting agent, air invariably is mixed in.

But there is a simple way of getting rid of the bubbles. In the reduced pressure of a vacuum chamber bubbles are enlarged and rise to the surface of the mixture.

On seeing the air come swirling out



of the resin he realised that a vacuum was what was needed to get synthetic substances inside the finest tissue.

He decided to impregnate biological specimens with synthetic preservative. This was the idea from which he embarked on a voyage of scientific discovery that has led to the invention of plastination.

The boiling point of a substance depends not only on the surrounding temperature but also on atmospheric pressure.

At sea-level, acetone, for instance, boils at 56 degrees centigrade. In a vacuum it reaches boiling point at room temperature, which is not, as a rule, harmful to biological specimens.

In the months that followed he beavered away in the department's laboratories until late at night experimenting, with every encouragement from Professor Wilhelm Kriz, the head of department, with various substances.

He tried out a wide range of synthetic resins, solvents, temperatures and hardening processes.

"The 30,000 marks my wife and I had saved for a journey round the world went in no time," he says.



Beautifully prepared... von Hagens with an example of his plastinated hand model. (Photo: Lothar Reinbacher)

His salary and the anatomy department's research allocations were nowhere near enough to pay for the expensive resins and trips to plastics factories he needed.

For four years he lived on his wife's earnings. He invested roughly DM40,000 in patent applications alone.

The principle on which plastination is based is simple, but the different properties of the various plants, animals and human organs require different mixtures and methods of treatment.

Von Hagens starts, in the conventional manner, by fixing his specimens chemically, using substances such as formaldehyde. Then they are dehydrated and degassed with acetone or methylene chloride.

As soon as they are thoroughly impregnated, they are put into a container full of plastination liquid.

The liquid plastic would not find its way into the individual cells of tissue were the process not undertaken in a vacuum chamber, however.

In a virtual vacuum the solvent bubbles madly out, its place being taken by the plastic resin.

Before long the resin, ready to harden, is everywhere the living tissue contained either water or fat. Then it starts setting.

The process of plastination can be controlled to make the specimen either hard enough to be worked with a grinder or flexible as leather.

The variable index of refraction of the resin determines whether a specimen will later look light or dark, opaque or transparent.

West German manufacturers, by whose readiness to innovate the former GDR citizen had set great store, showed little or no interest in the technique.

"Now I know," he says, "why lawyers and inventors never make it to the boardrooms of major companies. Only what a company's own research division has invented is felt worth developing."

Chemicals manufacturers showed interest in the use to which von Hagens was putting their products, however. His name is a household word in the research laboratories of Bayer and BASF.

But anyone who wants to put plastination to commercial use must negotiate with him for a licence and buy the required synthetic substances from him.

Dr von Hagens has patented his process in Germany, Austria, Britain, Belgium, South Africa and the United States.

He holds courses to explain the technique. Over 100 specialists from 70 uni-

versities at home and abroad have attended.

Visitors from abroad have been exclusively professors and heads of department who come to Heidelberg to learn more about plastination.

Visitors from other parts of Germany are mainly anatomists whose job it is to prepare specimens for preservation, most of them are not senior enough to be able to order the necessary equipment, which includes a vacuum chamber.

Extra ventilation is needed to deal with the fumes released by the solvent that are vacuum-extracted, with the result that conversion can take time.

In Munich, for instance, Hans Dörmann has started plastinating but is short of DM40,000 towards the cost of building work.

Von Hagens feels, in view of the queries, discussions and initial expense, that plastination is a process that could well be used beyond the narrow confines of departments of anatomy.

Schools and universities could use it to preserve the natural appearance of plants, fruit and small creatures for use in lessons and lectures.

Biodur-impregnated, cross-sectioned (Biodur is his plastination trademark) can convey in a remarkably impressive manner the three-dimensional structure of a living being.

Judges, prosecution counsel and juries called on by the courts to give an opinion, could use plastinated models relating to a crime.

"Just imagine Kennedy's brain on the judge's desk," says von Hagens.

Archaeologists could prepare leather, wood and bone finds for plastination and how to get in touch with it if they are to use it.

In a number of localities it has been made a priority under the number 11103. One call is for an unlimited period.

They do not sound a warning bleep and require call-box callers to put more money in the slot after the first few minutes of a local call, as is usually the case.

The joint advertising campaign will, it is hoped, not only result in more calls using the service; the NSPCC hopes more switchboards will be set up as a result too.

One of the first was launched in Cologne in 1972. It was set up privately by a teacher and a psychologist. But it soon

became too much for the two women and they called it a day.

Three years ago the NSPCC in Cologne relaunched the scheme with the help of trained social workers. The Cologne switchboard is now kept on its toes by about 100 calls a month.

In nearby Bonn a switchboard has been manned for over a year. The youth welfare committee asked the local NSPCC branch whether it could help, the NSPCC advertised for helpers.

A staff of 27 take turns to man the switchboard. They are students of medicine, psychology and social work, housewives and mothers of small children, a banker and a travel agent.

From Monday to Friday they take turns alone by the phone from three to six p.m. (German schoolchildren mostly finish school at lunchtime).

## CHILDREN

## Hot line to assuage the pains of youth and give voice to heavy breathers

Do you have problems or worries? Ask bills and stickers in public support. "Give us a ring. We'll give you a hearing."

Advertising along these lines has made its appearance in 81 localities around the Federal Republic of Germany at the end of this year's summer holidays.

It is aimed at children and young people designed to let them know the number of the local emergency switchboard or "telephone lifeline" run by the National Society for the Prevention of Child Abuse.

It needn't be cruelty, of course, and the service has nothing to do with an emergency switchboard manned by local authority youth and education departments when school reports are handed

out. The NSPCC lifeline is run not just by worried children and parents of kids who are having trouble at school; it is a round-the-year service.

Its aim is to listen, to discuss and to provide a helping hand. The difficulties it is consulted about come in all shapes and sizes.

"My parents never have time to talk with me," "I am unhappy and feel so alone," "I'm so short everyone laughs at me" and, a more straightforward plea for help: "I am 13 and pregnant."

This is a phone number manned to provide a service corresponding to telephone lifelines used mainly by adults.

It is sad but true that children and young people seek anonymous advice at the other end of the telephone as urgently as grown-ups do.

In the big city there are often more than 1,000 calls a year, which doesn't say much for ties of family and friendship.

These are youngsters who feel their parents won't understand or have time for them and their problems, and they say well be right.

Parents can be so preoccupied with their jobs and work around the house, that they fail to respond to their children's problems.

These are all children who do not see a friend to turn to. "They simply are no-one they can talk things over with," says a spokesperson for the Bonn emergency switchboard. "If they had, they wouldn't ring us."

The local switchboards last year set up a national coordinating committee based in Wuppertal that has been responsible for the current advertising campaign.

People have to know about the service and how to get in touch with it if they are to use it.

Even embryos could be plastinated for use by anti-abortionists.

Maybe we will one day be able to bequeath ourselves to posterity, plastinated in either unbreakable non-scratch form or flexible and realistic to the touch.

With so many possible uses, Gunter von Hagens' invention is unlikely to be of interest solely to anatomists at their Hamburg congress.

He is currently at work with a view to ensuring that natural history museums in future exhibit more than fur and bones and a few exhibits preserved in formalin.

Plastination can be used to preserve in an aesthetically satisfying and permanent

manner the organs and systems that so often are the deaths of us.

We will be able to look for ourselves at not just models but real lungs or hearts and see what changes they undergo.

As an anatomist and qualified doctor Gunter von Hagens knows only too well how difficult it is for medical students to visualise the human anatomy in three dimensions.

Yet this is something every doctor must be able to do, and not just surgeons. With plastinated specimens anatomists should be able to explain more easily to students what courses are supposed to teach them.

As patients we all stand to benefit from this improvement in teaching aids and methods.

Lothar Reinbacher (Die Zeit, 11 September 1981)

Continued from page 12

preserved for use as window decorations by confectioners.

Even embryos could be plastinated for use by anti-abortionists.

Maybe we will one day be able to bequeath ourselves to posterity, plastinated in either unbreakable non-scratch form or flexible and realistic to the touch.

With so many possible uses, Gunter von Hagens' invention is unlikely to be of interest solely to anatomists at their Hamburg congress.

He is currently at work with a view to ensuring that natural history museums in future exhibit more than fur and bones and a few exhibits preserved in formalin.

Plastination can be used to preserve in an aesthetically satisfying and permanent

manner the organs and systems that so often are the deaths of us.

We will be able to look for ourselves at not just models but real lungs or hearts and see what changes they undergo.

As an anatomist and qualified doctor Gunter von Hagens knows only too well how difficult it is for medical students to visualise the human anatomy in three dimensions.

Yet this is something every doctor must be able to do, and not just surgeons. With plastinated specimens anatomists should be able to explain more easily to students what courses are supposed to teach them.

As patients we all stand to benefit from this improvement in teaching aids and methods.

Lothar Reinbacher (Die Zeit, 11 September 1981)

Continued on page 13

Continued on page 13

Continued on page 13

The coordinating committee thus proposes to send out questionnaires and frame guidelines for dealing with switchboard clients.

But this bid is only likely to succeed provided experienced specialists collaborate.

If the staffer has the feeling that the child or youngster at the other end needs psychiatric help (at least 40 sessions with a psychotherapist), he will tell the caller that advice centres are run.

Psychotherapy cannot be given over the telephone, but does anyone seriously expect a worried child to call at a local authority office for psychiatric help?

The only practical solution is to link the emergency switchboard with an advice centre, as is the case in Cologne. So callers can simply be told: "Why don't you come round?"

In Bonn an advice centre for personal callers is still a distant prospect. The NSPCC branch has only 120 members and neither the cash nor the manpower to run one.

At present it meets DM3,200 of the annual expenditure, which totals DM5,000.

The remainder is paid by the city of Bonn.

Staffers are pledged to regard any information they receive as confidential. So the only way to learn details about the telephone calls is to make inferences from statistics.

But the statistics are fairly uniform throughout the country. Three callers out of four are girls, for instance. It remains to be seen why this is so.

Most callers are in the 12- to 16-year-old age group, and their problems overwhelmingly come in one or other of two categories.

They either have trouble with parents: "Our parents never talk with us," "Mine are divorced," "They won't have anything to do with my boyfriend."

Or there is trouble with friends of their own age: "I love him but he pays no attention to me," "No-one wants to be friends with me," "Everyone at school teases me."

Trouble at school can also arise from what is felt to be unfair treatment. Sexual problems and problems of partnership are likewise raised.

Drug addicts seldom call. Would-be suicides are even less frequent, but when a caller does threaten to commit suicide he is taken seriously.

Adults, perhaps surprisingly, are frequent callers. They ring up to complain about their children.

One call in seven, according to Bonn statistics, is a joke. But even spoof calls are rated a success inasmuch as callers who ring for a joke will know the number to dial when it no longer is a joke.

Twenty-four per cent, a high and fairly uniform percentage, are breathers. They are the callers who ring and then say nothing.

They worry staffers enormously. Switchboard staff try hard to give the silent caller the confidence to speak up and say something.

Breathers are asked three times to say something. If they fail to do so the switchboard staffer will hang up but reassure the caller that the service is still available.

"Please try again," they are told, and 10 or 15 minutes later some do. But this is a mere assumption. Callers are never asked: "Was it you who just called?"

Staff are much more circumspect and learn to sense the vibrations. They have to; they are all they have to go on. It is demanding work to give and to ask for no reward.

Elke Lehmann-Bisping (Frankfurter Allgemeine Zeitung für Deutschland, 9 September 1981)

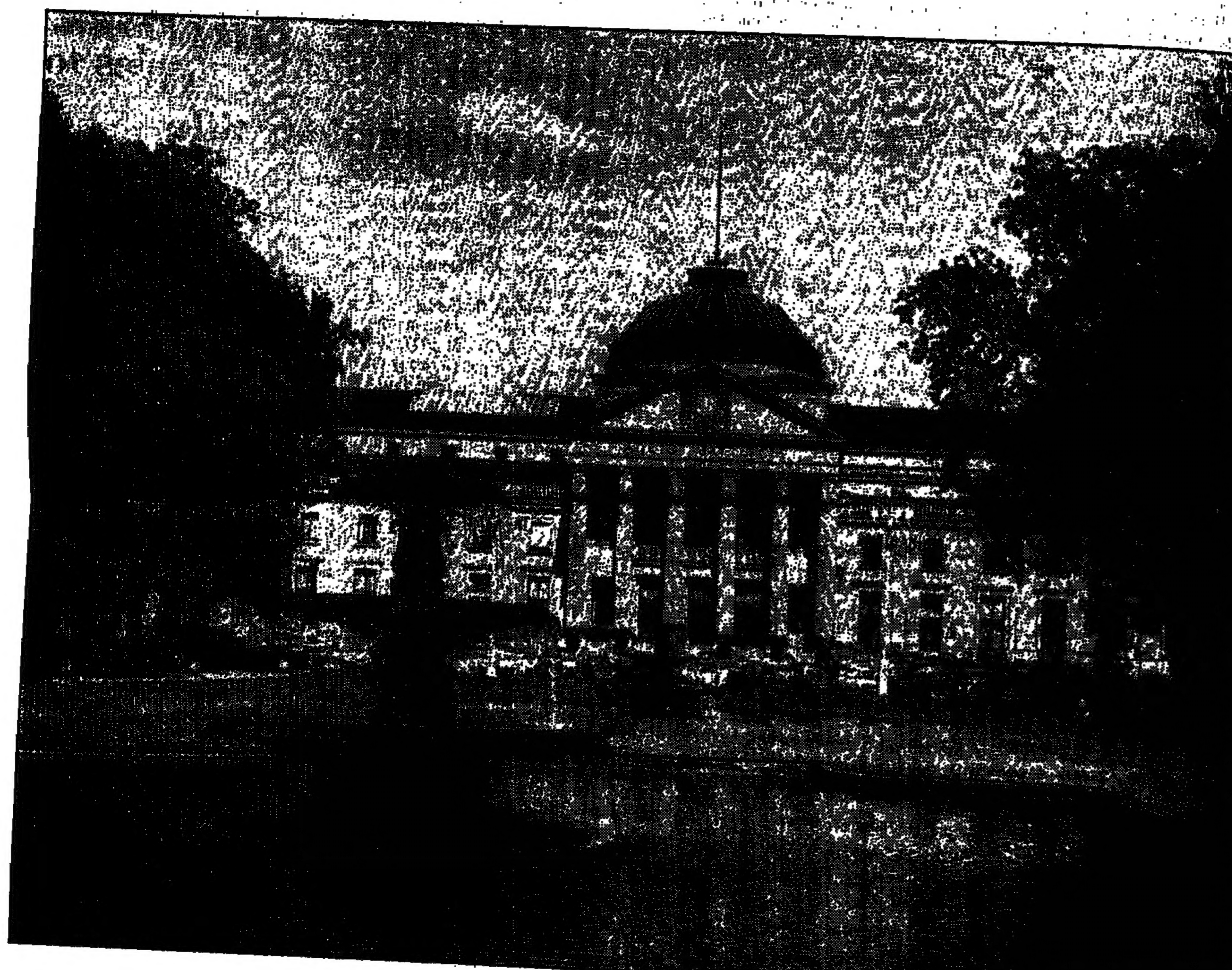


# German Spa

Mark Twain, Bismarck, the Tsar of Russia, Ibn Saud, General Eisenhower, Charles de Gaulle, Ted Miller from Kansas City, Frederic the Great and the Hunchback - what do they all have in common? They and many others visited the spas and health resorts of Germany. From the year dot onwards through the present and especially in the

future, Germany is the country of thermal baths, springs, healthy climates, world famous spas. From the seaside to the forests of Southern Germany there are more than 300 of them. They are traditional and modern at the same time. Take Wildbad in the Black Forest with its ultra-modern thermal baths or Wiesbaden with

the Royal Pump Room, or Baden with the elegant casino but we mustn't forget Bad Homburg and the Imperial Springs in Central Europe. Brochures on Germany the Country and its many natural treatments are available.



Handwritten note: "Spa in Wiesbaden"



Wiesbaden

Wildbad

DZT DEUTSCHE ZENTRALE FÜR TOURISMUS

## ARMED FORCES

### Cash cutbacks mean a smaller war game

armoured manoeuvres of the armed forces will be slightly less than planned because of cuts. The army's Lieutenant-General, General Poepel, says that the cuts will affect the army's national manoeuvres and the cost of the exercises for the army alone. This has been cut by DM10m, DM6.5m off the DM32m for the army alone.

armoured vehicles and the cancellation of some smaller exercises at brigade, battalion or company level.

General Poepel says that the cuts hurt. If they are repeated, training and readiness of the troops will suffer. But it remains to be seen whether similar cuts will have to be made next year. By then, however, General Poepel will be retired.

The major "Keen Blade" exercise of the 2nd Army Corps this month will involve more than 40,000 soldiers and 10,000 vehicles, including 3,000 track vehicles.

The exercise will be carried out together with the 52nd Brigade of the Territorial Army, based in Stuttgart, plus one brigade each from Canada and the United States with a total strength of 8,000 men.

In keeping with the CSCE Final Act, the signatory states have been told of the exercises and invited to send observers.

In addition, the army holds two divisional exercises this month. One will be in northern Hesse and East Westphalia and the other in East Frisia.

The 5th Armoured Division stationed in Dietz will take part in manoeuvres of the 5th US Corps in the Fulda area.

Officers in charge of Bundeswehr training abroad have meanwhile been able to relax. Their worry that the training of German troops in various

continued from page 4

military policies from Social Democrats in Germany.

entitled to circumspection and of mind for which Bonn can be held responsible.

and a sense of responsibility, and it goes without saying that both government and Opposition have totally condemned the manoeuvre in speculating that it had inspired the terrorists and in venturing to suggest that Democrats may be even responsible.

Stuttgarter Nachrichten, 16 September 1981

budget-slasher has not spared the Navy. Fuel rations have been cut 10 per cent in the past two years and are to be cut still further.

One-day exercise for 10 MTBs and 10 ships with a crew of 500 has been cancelled.

Meissner said the cuts have been too serious, but the fact remains that the navy is not being able to practise as much as it would like. It is a bitter pill for any navy to have to cut back on its training.

As a result of the measures, the MTBs will sail at a slower speed to save fuel.

Commander Kurth of the 2nd MTB Squadron is rather loyal about the whole thing. "We don't have to operate in every exercise."

That is not all. The Baltic Squadron longer moves far offshore. As Meissner puts it, "the men are quite tired when they get beyond the three-mile limit."

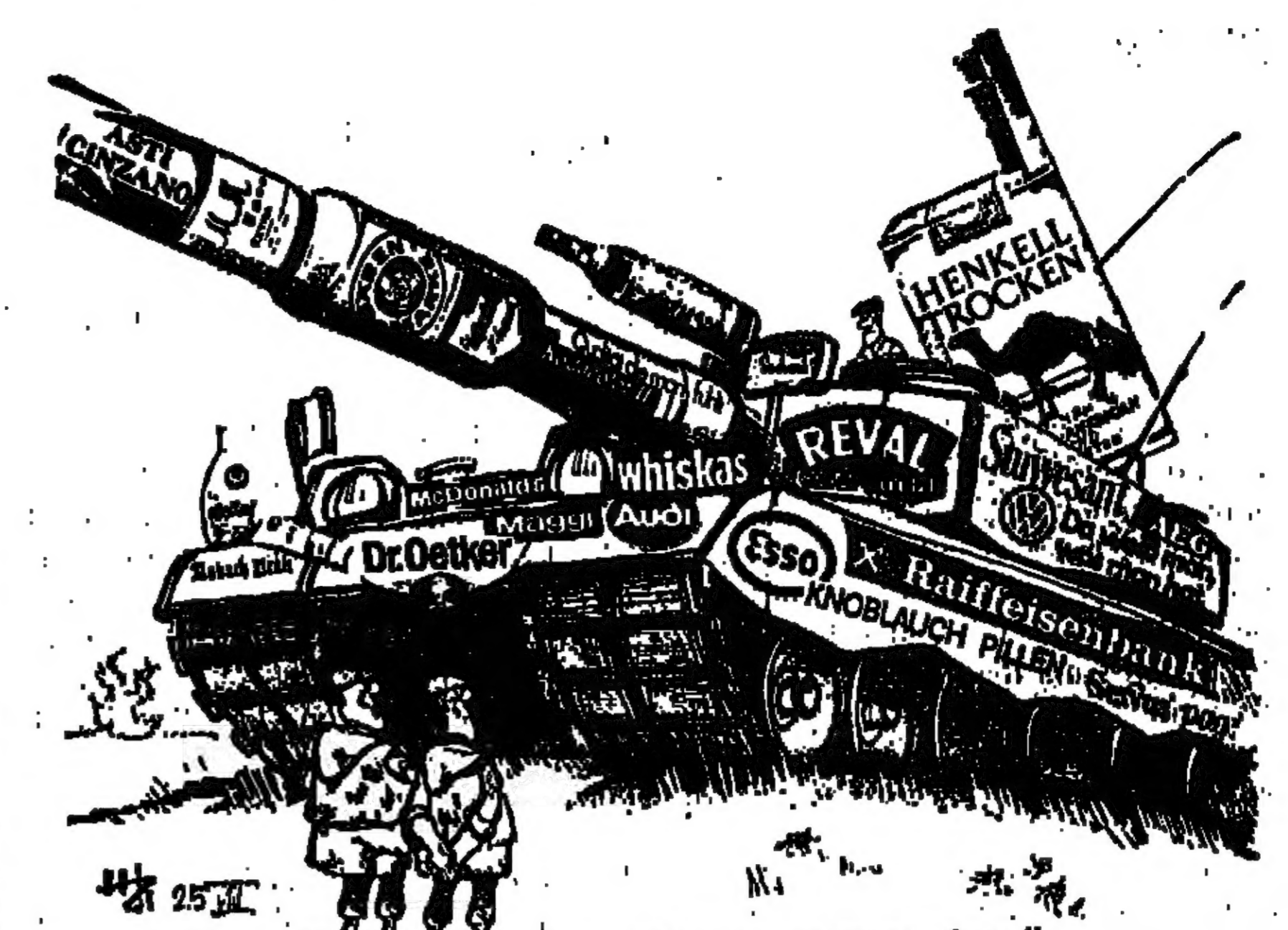
The naval officers who are responsible for exercises and the standard of training are unhappy at the lack of money among those who hold the purse strings.

He says: "If we can no longer pay for our fuel, we will have to go to sea on a reduced scale. And when it comes to the question of whether they're important enough to warrant the bill."

But there are just the results of a preliminary evaluation. The full results will not be known until a few weeks from now when all units that took part in the games have evaluated their recordings.

These exercises were not typical of the function of the German Navy.

But the "Botany Bay" games, which will be carried out together with the Danish Navy and in which the German units will have to defend the Baltic against attacks from the Tornado, the



"Well, we had to finance the manoeuvres somehow."

(Cartoon: Heltzinger/Nordwest Zeitung)

Nato countries would also be affected by the cuts have proved unfounded.

The training in the USA of Starfighter pilots and maintenance crews for ground-to-air missiles is ensured. So are the target and low altitude training of the Air Force in Canada, Greece, Italy and Portugal. The same applies to the exercises of Leopard tanks in Manitoba, Canada.

The 1981 budget for this type of training abroad had to be bolstered to the tune of DM40m due to the soaring dollar exchange rate.

But the Defence Ministry has now made it quite clear that training abroad is to remain unscathed.

The head of the German Air Force and missile training facility in the United States, Gen. Walter Schmitz, was

visibly relieved at the good news from Bonn.

German Starfighter pilots have been trained in Luke, Arizona, since 1964. It is there that close to 1,000 Germans have earned their wings.

The general stressed that any cutbacks here would have had disastrous consequences for the combat readiness of the Luftwaffe.

"In case of war, we can only hold our own if our pilots' training is top notch."

The general also made a point of saying that he was well aware of the money shortage and that he kept a close watch on fuel consumption.

Luke is the chosen base because of the excellent flying conditions in Arizona with its 350 days of sunshine a year.

Helmut Berndt

(Stuttgarter Nachrichten, 11 September 1981)

### Navy saves fuel by keeping engines throttled down

new system will be using 5.6 tons of fuel per hour instead of the present 3.1 tons.

The Bundeswehr allowed the press a glimpse at some of the exercises of the 2nd MTB Squadron.

There were nine MTBs and two supply ships on the warpath from the tip of the Danish mainland to their home port in Olpenitz near Kappeln. The total time it took to cover the distance was 12 hours.

In one exercise, the German MTBs, together with guided missile destroyers and other vessels, were assigned the role of "enemy" to the US contingent headed by the carrier Eisenhower.

It was a thrifty war game, the officers say, because otherwise "we would have needed more ships to set the enemy."

In any event, magnetic tape recordings after the exercises showed that the MTB Squadron was successful and managed to hit the carrier.

But these are just the results of a preliminary evaluation. The full results will not be known until a few weeks from now when all units that took part in the games have evaluated their recordings.

These exercises were not typical of the function of the German Navy.

But the "Botany Bay" games, which will be carried out together with the Danish Navy and in which the German units will have to defend the Baltic against attacks from the Tornado, the

Eastern Baltic, will provide a realistic scenario.

The exercise continued on the return passage to Olpenitz.

It was an overcast and luckless day for the MTB Squadron. At the early morning briefing the officers had doubts as to whether the Starfighters they ordered to enable them to practice their anti-aircraft defence would actually show up.

Their doubts were well-founded. None of the Starfighters came. Neither did the special plane towing a target for gunnery practice.

With it all, there was no sign of boredom about MTB 62. Using simulated targets, the men practised the firing of two torpedoes.

And by a stroke of good fortune they even spotted a Starfighter on some mission that had nothing to do with the exercise and so got an opportunity to target a few blanks.

In between, there was a bit of gruesome practice for the men, which they took in their stride: the ship passed through an area "contaminated" by the explosion of a nuclear bomb.

The entire shipboard routine was changed within minutes as every man manned the prearranged contingency stations.

The bridge was vacated, all watertight bulkheads closed and the men donned gas masks while the officers at the command centre figured out the altitude and speed of the fallout cloud.

Sprinklers put a film of water over the whole boat to prevent fallout particles from clinging to the ship.

Down below, the atmospheric pressure was raised to the point where nothing from the outside could penetrate the hull. Only after special detachments of men had fanned out with their geiger counters to measure the contamination was the all-clear sounded.

The Soviet fleet, which at that time was also engaged in exercises at the other end of the Baltic, was obviously not plagued by economy measures.

The fleet headquarters in Glücksburg kept a close watch on the Soviet manoeuvres, which were the biggest ever held.

Admiral Fromm said that they were clearly offensive.

Reports coming in from two German Naval units operating on the periphery of the Soviet manoeuvre area spoke of close to 60 Soviet vessels, among them the Ivan Rogov, the fleet's largest landing craft.

All movements were recorded and analysed. Observers cautiously intimated that the huge fleet could serve as a landing facility for Soviet helicopters in case of a military operation against Poland. The ships could then evacuate Russian personnel.

Of course, the Russians also maintain their listening posts at the Baltic exit to the North Sea. The biggest nuclear guided missile destroyer of the Kirov class has been patrolling around the Danish islands for months.

The whole thing is so much routine to the Soviet sailors that they paid no attention to the passing German MTBs and continued their volleyball game on deck as if nothing had happened.

Heinz-Joachim Meider

(Kölnische Stadt-Anzeiger, 17 September 1981)